

## Patents Information

### What is a patent?

A patent describes a product or process that possesses or contains new functional or technical aspects. For example, it might describe

- A method or process for manufacturing product X
- A machine used in the manufacture of product X
- Product X itself

It is a legal document granting exclusive rights to a person or organisation for a limited period of time, so prevents others from making, using or selling the invention without permission.

In return for this monopoly, the inventor provides a full and sufficient disclosure for people to be able to carry out the invention, and (s)he also makes various payments. This makes patents the largest single body of technological information available anywhere and around 80% of this information cannot be obtained from any other source.

### Why use patents as an information resource?

The quality and quantity of information included in each application make patents an important source as follows:

- Patents contain a wealth of technical information, which is often unavailable in journal articles and conference papers.
- They include literature reviews that will have been undertaken by the examiner to check that the invention is unique.
- They include a detailed explanation of the invention itself, often with illustrations.
- They cite other patents which have been used or referred to, enabling you to trace other relevant patents.

Patents are therefore useful for a range of researchers. For instance:

- Patents can be of historical significance, enabling researchers to trace the development of technologies.
- Patents can be used as a source of information about people, enabling researchers to identify experts in particular areas.
- Patents can be used for commercial information. Their specifications can reveal which companies are active in a particular market.
- Novelty or patentability of a new invention can be determined, i.e. whether it can be patented.
- Patents can be used as a preliminary to tackling a new problem, by finding out what work has already been done by others in the same field.

Researchers who ignore the patent literature risk missing important documents and could therefore waste time and money by duplicating previous research.

### The Patent Document

Each Patent has three sections:

- front page

- specification
- claims

### Front Page

The front page includes: a title, abstract (summary), patent number, date, inventor and applicant (the company or individual applying for the patent). NB: The American term for an applicant is assignee. Each piece of information is identified by an **INID Code** (the Internationally agreed Numbers for Identification of Data Code).

**Fig 1: European patent application front page**

The diagram shows a European Patent Application front page with the following fields circled in red and labeled with INID codes:

- 19** – Name of patent issuing authority: (19) Europäisches Patentamt / European Patent Office / Office européen des brevets
- 11** – Document number: (11) EP 1 398 406 A2
- 21** – Local application date: (21) Application number: 03255734.0
- 51** – International Patent Classification Code: (51) Int Cl.7: D06F 57/04
- 71** – Name of applicant: (71) Applicant: Vale Mill (Rochdale) Ltd Lancashire OL16 1TA (GB)
- 72** – Name of inventor: (72) Inventors: Trowsdale, Darren Leeds, LS28 8NZ (GB)
- 57** – Abstract: (57) A rotary aileron has a support member (10) and a number of arms (18) coupled to the support member (10). At least one arm (18) comprises an engagement member (44). The engagement member (44) provides an anchorage point for a line (22) extending between adjacent arms (18).

Other fields shown include: (43) Date of publication: 17.03.2004 Bulletin 2004/12; (44) Designated Contracting States: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR; (45) Designated Extension States: AL LT LV MK; (30) Priority: 12.09.2002 GB 0221079; (74) Representative: McCallum, Graeme David et al Lloyd Wise, McNeight & Lawrence, Highbank House Exchange Street Stockport, Cheshire SK3 0ET (GB).

Some of the most important INID codes are:

- Th
- 11 – Document number
  - 19 – Name of patent issuing authority
  - 20 – Local application number
  - 21 – Local application date
  - 26 – Language of document
  - 51 – International Patent Classification codes
  - 54 – Title
  - 57 – Abstract
  - 71 – Name of applicant
  - 72 – Name of inventor

Some two letter country codes which you may encounter are: (CH) Switzerland, (DE) Germany, (EP) European Patent Office, (FR) France, (GB) United Kingdom, (JP) Japan, (NL) Netherlands, (US) USA and (WO) Patent Co-operation Treaty.

The second section is the specification, which describes the invention and may include examples, drawings and an account of the prior art (background technology).

### **Claims**

The third section has the claims which define the legal boundaries of the patent. Usually there is a series of claims, which start with broad claims and then become progressively narrower in scope.

### **The Status of the Patent.**

The patent specification is often published twice, The first is the Application, the second is the granted patent after the claims have been substantiated. The two versions are differentiated in UK patents by the letters A or B after the patent number, with B being the granted patent.

### **Tracing known patents**

You may have identified a patent that is relevant to you, perhaps by searching a bibliographic database, or browsing a list of references at the end of a journal paper. Patent references are easy to recognise because they each have a patent number. Here are some examples of patent numbers:

- British: GB2208189A
- European: EP0050443A2
- Patent Cooperation Treaty: WO 84/00080
- United States: 4,718,426 (this may be preceded by US or PN)
- German DE 3727042A1
- Japanese JP 63-218215

To locate the full text of a patent, try searching one of the Patents Databases listed below by patent number.

### **Searching for Patents**

Patents are legal documents and the information which they contain may be difficult to read because of its legal vocabulary. A patent may also be difficult to read if the inventor is deliberately cagey about the patent's main purpose. If refereed journal articles are available, you will probably find them much clearer than the equivalent patent. However, around 80 per cent of patents are never published as journal articles, and for those which are, the patent is usually published first.

#### **Designing your patents search strategy**

Due to the difficulties in interpreting patents and the technical language used therein, it is important to consider your search strategy carefully. There are two main ways to search for a patent:

**1. International Patent Classification (IPC)** - All patents are classified by an International Patent Classification (IPC) scheme, although many countries also have their own classification schemes. The IPC is a hierarchical classification system used for classifying and searching patent documents. There are eight sections in the IPC, for instance section C deals with Chemistry and Metallurgy. Sections are then subdivided into classes, then subclasses, then main groups, and finally subgroups. Finding the IPC code assigned to your subject and searching on it will reduce the number of irrelevant results. The IPC is available on the web at <http://www.wipo.int/classifications/en>

#### **2. Keyword searching**

Think broadly about the keywords that could be used to define your area of interest and go beyond the obvious. Consider searching word stems by using wild cards, and use Boolean operators. For more information on constructing a search strategy, see the Library Services' Guide to Effective Search Techniques, available on the web at:

<https://intranet.birmingham.ac.uk/as/libraryservices/library/documents/public/alcd-guides/sk10.pdf>

The British Library offer regular workshops on patent searching. See the British Library's Patent Collection Page at <http://www.bl.uk/reshelp/findhelpsubject/busmanlaw/ip/ippatents/patents.html> for more information.

Once you have considered your search strategy, you will need to decide which database to search.

## Patents Databases

**Esp@cenet** (free) <http://gb.espacenet.com/>

The best starting point for free patents information is probably Esp@cenet. Esp@cenet is Europe's network of patent databases. A central Esp@cenet website provides access to national websites, sharing a common interface.

The web site provides the facility to search national and international patent databases, including the UK, United States, Germany, France and Switzerland.

The Esp@cenet worldwide file has variable coverage depending on country and date. If in doubt, it is best to assume that comprehensive coverage begins in the early 1970s.

For more information on searching Esp@cenet, see the Esp@cenet help pages.

**US Patent & Trademark Office (USPTO)** (free) <http://www.uspto.gov/patft/>

If you need a US patent that isn't available in esp@cenet, try the US Patent and Trademark Office. The US Patent and Trademark Office website consists of two databases. PatFT (patents) offers the full text of granted US patents from 1976 and full images of US patents from 1790 to 1975. The images can be displayed as TIFF files (plug-in required). This database is updated weekly, usually each Tuesday. AppFT (Applications) offers full text of published patent applications. This database is updated weekly, on Thursdays. You can restrict your search to specific sections of the patent document e.g. title, inventor name, claims.

**Google Patents** (free) [www.google.com/patents](http://www.google.com/patents)

Google Patents covers US patents only, but is easier to search than the USPTO site, although the quality of the indexing has been questioned. Patents can be downloaded as .pdf documents (no TIFF plug-in required), and citations are listed.

**Patent Lens** (free) <http://www.patentlens.net/>

Is an Open Access resource provided by CAMBIA, a none-profit organisation aiming to use technology to improve quality of life by improving access to information. It includes European, US and Australian patents amongst others, and can be searched in languages other than English.

**Scifinder** (subscription – access via **Findit@bham** <http://Findit.bham.ac.uk> under 'Find Databases' link at top right)

The Library has a subscription to this bibliographic database which indexes chemical patents. The advantages of using SciFinder over the free databases above is the excellent indexing allowing detailed and precise searching, including chemical structure searching. However SciFinder does not provide access to the full patent document so needs to be used in conjunction with the free databases above.

## British Patents

For extensive and thorough historical searches, you will need to visit a patent library and make use of the hardcopy and microform searching aids available. Locally, British Patents are held at:

Business Insight Patents

Central Library  
Chamberlain Square  
Birmingham B3 3HQ  
Tel: +44 (0) 121 303 4531  
Fax: +44 (0) 121 303 1354  
Email: [business.library@birmingham.gov.uk](mailto:business.library@birmingham.gov.uk)

Business Insight Patents, Birmingham Central Library, has extensive collections of UK, US and European specifications, and also offers a specialist enquiry service and an online searching service. They also provide access to the Derwent Innovations Index, a user-friendly web service for searching patents.

The most extensive collection of searching aids is held at the Business and Intellectual Property Centre at the British Library:

British Library  
St. Pancras  
96 Euston Road  
London  
NW1 2DB  
Tel: +44 (0) 20 7412 7454  
Email: [bjpc@bl.uk](mailto:bjpc@bl.uk)  
<http://www.bl.uk/reshelp/findhelpsubject/busmanlaw/ip/ippatents/patents.html>

### **Keeping up to date with patents**

<http://www.patentalert.com/> - The US Patent and Trademark Office provide a free alerting service to update you on new US patents in your area of interest by email. Free registration is required.

### **Advice for University of Birmingham members who wish to patent an invention**

According to the University regulations [http://www.as.bham.ac.uk/legislation/docs/regulations\\_part3.pdf](http://www.as.bham.ac.uk/legislation/docs/regulations_part3.pdf), (Section 3.16.1) "When a member of Staff makes an invention or discovery in the course of his or her normal duties or in such other circumstances that by law the invention or discovery belongs to the University and which he or she has reason to believe may be commercially exploitable he or she will report the same to the Head of College for action. 'Invention or discovery' shall include the production and development of computer software. Those with responsibilities for exploitation in this Regulation shall always act with all due expedition, according to the circumstances of the case".

If you are considering patenting an invention, you are strongly advised to contact *Alta Innovations*, the company set up by the University to help academic staff realise the commercial potential of their ideas. There is more information on the *Alta Innovations* website at [www.alta.bham.ac.uk](http://www.alta.bham.ac.uk) Furthermore, you are advised not to discuss your application with third parties until your application is filed and you have been advised on the basis on which information can be shared.

### **Useful links**

Esp@cenet <http://gb.espacenet.com/>

UK Intellectual Property Office <http://www.ipo.gov.uk>

United States Patent and Trademark Office <http://www.uspto.gov/patft/>

The European Patent Office <http://www.epo.org>

Chartered Institute of Patent Attorneys (CIPA) Directory of Patent Agents  
<http://www.cipa.org.uk/>

British Library Patents Information Page  
<http://www.bl.uk/reshelp/findhelpsubject/busmanlaw/ip/ippatents/patents.html>

The European Patent Office Online Services  
<http://www.epoline.org/portal/public/registerplus>  
- to check legal status of all published European and Euro-PCT applications

DEPATISnet <http://www.depatismet.de/>  
This service, provided by the German Patent and Trade mark Office allows you to conduct online searches of their in-house patents information system, Depatis.

### **Further reading**

**Introduction to Patents Information**  
Science Reference q T 210/I

All Library Services documents are available in other formats, please contact Library Services on 0121 414 5828 or  
<https://intranet.birmingham.ac.uk/as/libraryservices/library/contact/justask.aspx>  
for information

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